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TRANSMITTAL FORM

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Application Number	10/600,904
Filing Date	6-20-2003
First Named Inventor	Robert Sigurd Nelson
Art Unit	2882
Examiner Name	Irakli Kiknadze
Attorney Docket Number	

Total Number of Pages in This Submission: 3

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
- ☐ Fee Attached
- ☒ Amendment/Reply
- ☐ After Final
- ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
- ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
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- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
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- ☐ After Allowance communication to Technology Center (TC)
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please identify below):

Remarks

Signature of 2nd Inventor added to 9-09-2004 response.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Robert Sigurd Nelson
Signature	Robert Sigurd Nelson
Date	10-07-2005

CERTIFICATE OF TRANSMISSION/MAILING

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Typed or printed name	Robert Sigurd Nelson		
Signature	Robert Sigurd Nelson	Date	10-07-2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Appl. No. : 10/600,904
Applicants : Robert Sigurd Nelson, William Bert Nelson
Filing Date : June 20, 2003
Examiner : Irakli Kiknadze
Art Unit : 2882
Title : DEVICE AND SYSTEM FOR IMPROVED IMAGING IN NUCLEAR MEDICINE AND MAMMOGRAPHY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

October 3, 2005

Dear Mr. Kiknadze:

In response to the Office Action post marked September 9, 2004, please see the following remarks for application 10/600,904. In response to the Office Action of 9/29/2005 the signature of the second inventor is included.

REMARKS

In the office action post marked September 9, 2004 the Examiner rejected claims 57-59 based on Walters.

Applicants will address first the rejection of claim 57 as being anticipated by Walters. Walters describes a dual-energy CT systems which is based on obtaining two arrays of data values representative of beam attenuation at two different energy levels. The two distinct (high and low) energy levels S_1 and S_2 are the result of two different x-ray tube voltage levels (high and low KVPs such as 120 KVP and 70 KVP). That is, two distinctly different, broad bandwidth x-ray spectra. Furthermore the data values are in the form of analog signals that are proportional to the detected beam intensities. See Col. 13: lines 56-68, col. 14: 1-12. The data are combined from the two scans to synthesize two images (photoelectric and Compton or equivalently bone and tissue). The calibration procedure Walters refers to in col. 10: lines 16-34 requires the development of a table of photoelectric and Compton values in terms of intensities I_1 and the ratio I_2/I_1. Walters performs air scan at two energy (KVP or tube voltage levels) to develop high and low energy beam profiles. These are broad bandwidth x-ray beam spectra and the detectors are analog (integrators). There is no energy resolution!

Walters has described a means of calibrating a CT detector using two different (High and Low KVP) x-ray beams for dual energy imaging. The CT detector is analog and therefore lacks energy resolution for individual photons. The analog signals are proportional to the intensities of the x-ray beams and energy distributions that reach the